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ABSTRACT

This paper describes a psychological model for influencing social behavior that is based on a biological model. The model gave rise to an idea for a drug abuse program which applied and tested concomitantly in an "action research" drug abuse program with junior and senior high schools in San Bernardino, California. It was postulated that, given a school situation where an active group of drug users and pushers were present, a sizeable number of low-resistance students would imitate the drug behavior. It was further postulated that the medical inoculation model, by introducing into the schools deactivated toxic agents such as paroled ex-addicts, would act to discourage the low-resistance students from illicit useage. Some of the validating techniques used in this type of research are highlighted in describing the outcome of the application of the model. The data seem to support the viability of the model, and the paper concludes with a discussion of models and the risks involved in their use. (Author/SLD)

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A SOCIAL INOCULATION MODEL FOR INCREASING RESISTANCE TO ILLICIT DRUG USE

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In a series of carefully interrelated experiments, McGuire and his students (McGuire, 1961a, 1961b, 1961c, 1962a and 1962b) have garnered impressive support for a theory of inoculation against counter arguments in studies of attitude change. The medical inoculation model clearly shows that introducing a small dose or a weakened form of a germ into an organism stimulates the body's defenses against such germs. Hence, when the body comes under relatively more intensive attack by being infected with a larger dose of fully virile germs it is readily in a position to neutralize the invading pathogens.

McGuire's theory, which is an analog of the medical model, holds that just as it is possible to stimulate the body's defenses against germs by inoculation, so too it is possible to stimulate a person's attitudinal defenses by inoculating him with a weak form of counter attitudinal arguments.

The guinea pigs in McGuire's experiments were a group of cultural truisms such as: "It's a good idea to brush your teeth after every meal if at all possible" and "The effects of penicillin have, almost without exception, been of great benefit to mankind". These statements were so pervasive a part of our cultural lore and so commonly accepted that almost no one had ever heard any arguments counter to them. Continuing the analogy, one can say they existed in a nearly germ free environment

Next McGuire and his students gave prophylactic treatment against counter arguments by, on the one hand offering arguments in support of the truisms and on the other hand, inoculating by offering

weak (but meaningful) arguments against the truism. Then the truism was subjected to massive serious counter argument after which the subject was tested for any change in attitude away from the baseline response towards the truism. The results of the series of experiments exploring various relevant variables uniformly support the notion that inoculation with mild counter arguments provides better and longer lasting resistance to attitude change than does offering supportive argument. This notion, which runs counter to popular opinion might have profound social implications. For instance, immediately following the Korean War there was wide national concern about the seemingly weak resistance of U.S. prisoners of war to the massive Chinese Communist propaganda effort that was known as brain washing. One Senate committee (United States Senate, 1966) heard numerous pleas for our schools and other institutions to teach more explicitly the reasons for maintaining "American" ideals. However McGuire and Papageorgis (1961) argue the contrary, that pre-exposure to the counter arguments (in weakened form) is more effective as an immunizing agent than are arguments supporting cultural truisms.

Given this background these authors, in concert with a number of organizations in the city of San Bernardino, California including primarily the Police Department and the City School System have implemented a program to control the illicit use of drugs by students in the junior and senior high schools. This action-research project is developed on a model which is an extension of McGuire's inoculation model. School officials and the police felt that traditional methods of drug abuse education were totally

inadequate to control what they felt was becoming an epidemic of illicit drug use.

Applying the medical inoculation model to this situation it was felt that if an active group of drug users and pushers were present in the school system a sizeable number of students with low resistance would be infected by these socially noxious agents and succumb to the same pathological behaviors. However, if some deactivated toxic agents, such as several ex-drug addicts on parole, were introduced into the school system, they might emit the kinds of behaviors which would activate the defenses of the socially most susceptible students thereby inoculating them against the effects of the noxious agents when they were tempted to illicitly use drugs.

A program was devised in which the authors would both serve on an advisory board and serve as the evaluators of the project. The California Council of Criminal Justice funded the project for a three year period. The school system provided the necessary in-house support and accepted the project as a quasi-official part of the school program. Finally the program was to be administered by a sergeant from the Vice Squad of the San Bernardino Police Department. The agents of implementation were to be six ex-drug addicts on parole from the California Rehabilitation Centers at Patton and Corona. The program was given the name P.L.E.A.S.E., an acronym for - Parolees, Law Enforcement Assist Student Education and the parolees were given the title, "Drug Consultant". The consultants have been both male and female; Anglo, Black and Chicano, and have ranged in age from early twenties to early forties.

The fifteen secondary schools in the San Bernardino school system were divided into sets of five and the drug consultants paired in teams of two. Each team of drug consultants had five schools for which they were responsible -- one day a week per school. The drug consultants spoke at assemblies, and in classes where a presentation on drugs was in context. In addition the consultants made it known around the campus that they were available to be met with individually or in small groups for rap sessions. As the program matured and students and teachers in the school community got to know the consultants they would, at times, refer a student to one of the drug consultants.

The P.L.E.A.S.E. program is now approaching the end of its third year. It has progressed with relatively little turmoil. In the beginning there was serious public concern and resentment about placing ex-drug addicts on campus in regular contact with students. The students themselves, however, gave an accepting if not warm welcome to the drug consultants. This acceptance by the students produced jealousy and animosity towards the drug consultants on the part of some teachers and administrators. Great care had to be exercised, for instance, not to refer to a drug consultant as a drug "counselor" for that term belonged strictly to the professional counseling staff of the school. Indeed, as we designed the questionnaires and other measuring instruments we have used in our evaluations, one of our most enduring problems has been to find a name for the drug consultants by which students in all schools would know them.

Given the dismal success rate of drug abuse programs in general, any modest signs of effectiveness would suggest that this

model is a viable one. It will be some time yet before all the data can be tabulated and analyzed. However, after three years, the concatenation of evidence now available is such that we feel reasonably confident in presenting it at this time.

There are two types of evidence available. First the data that address directly the question, "is illicit drug use being reduced?" And second, the data that address that question indirectly or by inference. The two most dramatic pieces of data that address themselves directly to the question come from school and police statistics. Figure 1 illustrates the dramatic reduction in expulsions from the school system for drug related offences following the first full year of operation of the P.L.E.A.S.E. program. We feel that some of the fluctuations reflect changes in the collective attitude of the school board towards expulsion.

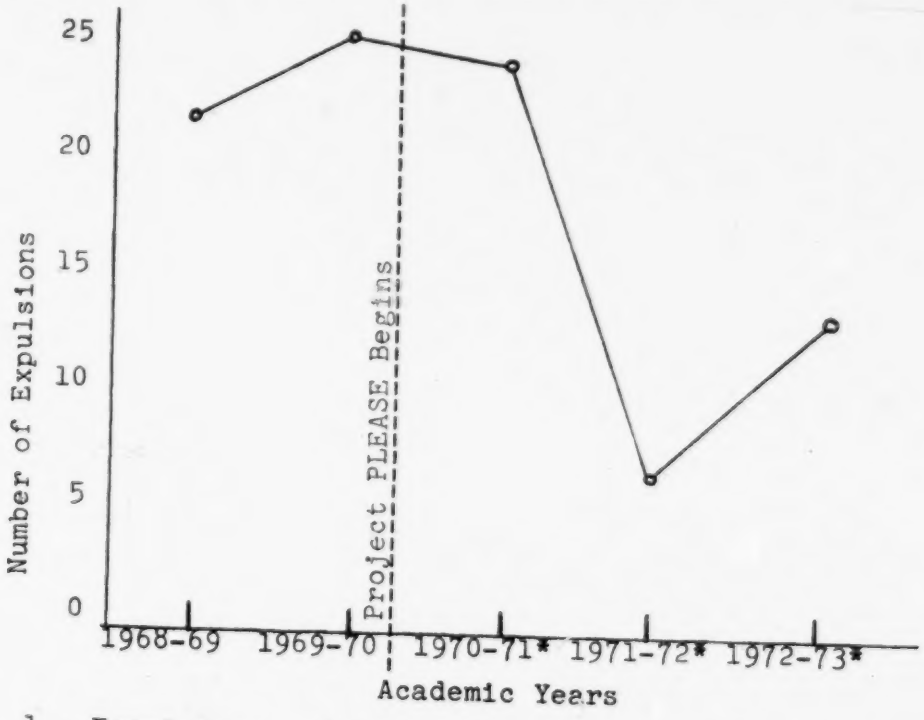

Fig. 1 - Expulsions and Exclusions Involving Drug Offenses - City of San Bernardino Unified School District.

* Data includes both expulsions and exclusions

Part of the reduction almost certainly reflects a generally less punitive attitude towards violations involving marijuana. But it also seems likely that some of this precipitous decline is attributable to a general reduction in illicit drug use of a serious enough nature to get discovered.

The total number of juvenile arrests for narcotics and drug related offenses for residents of San Bernardino for 1971-72 and 1972-73 are as follows in Table 1.

TABLE 1

Total Resident Juvenile Arrests for Narcotics and Drug Related Offenses in San Bernardino

Year	Total	From Project School	Dropout or From Non-Project School	Unknown
1971-72	222	70%	28%	2%
1972-73	206	53%	47%	0%
change	- 7%	-17%	+19%	

All of the data in this kind of research address the empirical question obliquely. The trick is to get data that approach the same question from enough different angles to satisfy one's confidence demands. Notice (see Figure 1) that while there is a slight reduction in the total number of arrests between the two yearly periods there is a large drop among students from Project schools and a large increase in arrests of young people not in project schools.

This evidence suggests that while illicit drug use among people in this age group in this area is declining slightly, it is dropping among those who have contact with the P.L.E.A.S.E. program and increasing among those who do not have such contact.

The evidence that attests to the effectiveness of the Program by inference was obtained by yearly samples of more than 500 students from all of the secondary schools with questionnaires probing attitudes both directly and indirectly and obtaining survey type factual information. These surveys show clearly - that the drug consultants are known to the students and are responded to very positively. Furthermore, the surveys show that there is no other source of information or help that is regarded as highly by large numbers of students as the drug consultants, and that includes counselors, teachers, clergy, parents, physicians, police, other kids and close friends. This being the case then, while drug abuse has declined slightly among this age group in San Bernardino; among that portion of the group still within the school system in the year following the first year of the P.L.E.A.S.E. project there has been a sharp drop in drug use serious enough to result in expulsion. Furthermore, the arrests of students from project-served schools dropped by 17% and the number of arrests of young people either not in school or not in a P.L.E.A.S.E. served school increased by 19%. Since the P.L.E.A.S.E. project is without a doubt the most significant drug abuse project pervading the whole system and since its introduction corresponds directly to the drop in serious school drug problems and the arrest of students from those schools, it seems a pretty safe inference that the project is indeed instrumental in reducing serious drug abuse.

The model put forth by these authors differs from that of McGuire although the models have obvious similarities. McGuire deals primarily with attitude stability and change. However, in dealing with drug abuse one is often confronted with a contradiction between expressed attitude and behavior. As one youngster put it, "everybody knows you shouldn't take drugs - but we do it anyway.

A model is always a simplification of a real situation. The great utility of a model is that if there is enough evidence to suggest that it is in some way an isomorph of something else one can employ the model, see if it works, and if it does, it suggests that there are even more elements in the two systems that are analogues of one another. This provides a focus for further exploration to determine cause and effect relationships that were not apparent when the model was first suggested.

McGuire's model seems to work because, among other things, the presentation of minor counter arguments motivates the recipient to actively think up arguments that are ideosynchratic to him and then invent rebuttals to his own arguments. In the case of our model one would not expect the parolees to go among the students and speak well of drugs, which would be similar to McGuire's Counter argument. Yet in a strange way that did happen in a qualified fashion. These ex-addicts never played down the positive affect of the drug experience. They told it the way it was and the highs were high. However, they seem to have invoked a strictly economic model of the drug life. The benefits may be high but the cost of those benefits is way out of proportion to the value of the product. Hence, it simply is not worth it. So it seems that there might be some counter argument present after all.

Nevertheless that is surely not the whole story. For what is taking place is more complex than the juggling of values on an attitude scale. In the first place we have found out that once the initial contact has been made between the drug consultant and a student, discussion of drugs per se almost ceases. Then begins a discussion of problems having to do with self concept, family difficulty, loneliness, fears of one sort or another, sexual identity and competence. Somewhere, embedded in this constellation of behaviors lie clues to the factors that are salient in making these socially tainted ex-addicts acceptable to certain students as a confidante and counselor.

It could be argued that if the drug consultants are good enough counselors and drug use is a symptom of psychic distress then as counseling reduces psychic distress the need for drugs is gone. But six consultants serving as counselors reducing psychic distress couldn't have had the wide impact these six seem to have had. Rather, what seems to happen is the consultants help some of the "bad" kids get good again and then those kids serve as innoculating agents among other potentially deviant students.

As you can see, we have our research cut out for us and we are proceeding with it. We hope that the presentation of the model at this time will have an heuristic effect and engender even more research. A word of caution is in order though. There are dangers with models like this. The quasi-experimental techniques currently available to those doing action-research do not allow for the meticulous control of variables that is essential to supporting a model as clearly as McGuires' has been supported by laboratory studies. If the model seems to work, where nothing

else has worked at all before, one will be tempted to prematurely accept the model as having been demonstrated to be adequate. Further, there is the danger that the model will be mistaken for the complex event it is a functional representation of. Freud used many models such as his hydrodynamic model of the id as a reservoir of psychic energy which if drained optimally through proper channels, provided a stable life. But if dammed up it could burst out of confinement and produce the flood of psychic turmoil characteristic of neurosis and psychosis. The trouble with a profoundly insightful model like Freud's is that thinkers, faced with the incredible complexity of psychological events, are wont not only to accept the model as is, but indeed, even to see the model as the thing itself.

We conceive of this model as being a waypoint. We know something about the dynamic properties of immunization in biological tissue. We know little about the dynamic properties of social deviancy. However, if the model can be usefully applied then it suggests that some properties of the biological system are isomorphic with certain properties of the social system. This gives direction to the research that hopefully will discover the kind of functional relations between social variables that will make reverting to the use of the model unnecessary.

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